



REMARKS

Summary: By this Response, requests are made to supplement essential evidentiary and reasoning aspects of the Final Office Action so as to provide Applicants with information useful in aiding Applicants to judge the propriety of continuing the prosecution (37 CFR 1.104 (a) (2). These aspects are (1) the evidentiary basis for the asserted motivation to combine the Pant and Doran references, and (2) the legal support for the reasoning to combine the two references.

The Evidence and Reasoning for the Combination Are Insufficient

It is respectfully submitted that the evidence and reasoning for the combination are insufficient to support the rejections based on Pant and Doran. Initially, this request relates to the Final Office Action, and the asserted:

1. evidence of motivation to combine two references (Pant and Doran);
2. reasoning, which is that if there is evidence that two references to be combined are “functionally equivalent”,
“...one of ordinary skill would be motivated to use a functional equivalent”,
and thus substitute the functional structure of the one reference for the functional structure of the other reference; and
3. reasoning, by which substitution would be proper, e.g.:
“...the pressure control means of Pant with piezoelectric elements, as taught by Doran, **in order to more accurately control pressure distribution.**” (bold added for emphasis)

The Evidence:

The Final Office Action fails to include a response to Applicants' assertion that the Section 103 standard is properly reviewed with respect to the references “as a whole”.

It is again respectfully submitted that a proper review of the evidence requires review with respect to each reference as a whole. It is respectfully submitted that the assertion in the Final Office Action (page 5, last paragraph of Action Paragraph 5) is not a proper response to Applicants’ “as a whole” assertion. The assertion in the rejection is that “one cannot show nonobviousness by attacking references individually”. It is respectfully submitted that the requirement to view the references “as a whole” in deciding the obviousness issue is independent of “attacking references individually”. The CAFC cases which clearly confirm the “as a whole”

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requirement are numerous and fundamental. For example, in In re Fritch, 23 USPQ 2d 1780, 1782 (Fed. Cir., 1992) it was stated that:

“A prior art reference is relevant for all that it teaches to those of ordinary skill in the art.”

Note the reference to “a” prior art reference. Each such reference must be viewed for all that it teaches.

Further, in Panduit Corp. v. Dennison Mfg. Co., 227 USPQ 337 (CAFC, 1985) it was clearly held that:

“[E]ach prior art reference must be evaluated as an entirety, and ...all of the prior art must be evaluated as [a] whole”.

Discussion of Pant As A Whole

Applicants previously correctly asserted that these two Pant and Doran references should be viewed as a whole. Instead, the Final Office Action continued to improperly focus narrowly on Pant, and did not indicate how or why one skilled in the art would ignore clear evidence set forth within Pant. That clear evidence indicated that Pant **requires** fluid pressure fluid dispensing channels 32 and their openings 31 for the practice of the Pant invention. The deficient parts of the Action include, for example, Paragraph 2, page 2, Final Office Action, which stated that:

“Pant discloses the claimed invention including applying a force to a bottom side of a polishing belt wherein the platen is below a belt and a wafer is polished from above the belt, wherein the pressure on the belt varies through holes (31, 41);

and Paragraph 5, page 4, Final Office Action, which stated that:

“Pant indeed discloses using varying air pressure against a backside of the polishing belt to achieve uniform polishing.”

No Final Action description of Pant, including these above characterizations of Pant, acknowledges that Pant includes, as a whole, further evidence that is important to the obviousness issue. It is respectfully submitted that such failure is improper, and without such evidence the analysis set forth in the Final Office Action is in critically incomplete. For example, the rejection did not acknowledge that in Pant the express statement is made (col. 5, lines 25-28) that

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“it is the presence of the fluid dispensing channels 32 and their ...openings 31 which are the required structures for the practice of the present invention.” (bold added for emphasis)

It is respectfully submitted that when **all** of Pant is considered, including col. 5, lines 25-28, Pant not only teaches using air pressure to apply the quoted force, but also directly teaches one skilled in the art that it is required in the Pant invention to apply polishing pressure from the platen to the polishing belt by **fluid pressure by way of those fluid pressure fluid dispensing channels 32 and their openings 31 in the platen.** In failing to discuss this direct teaching of a requirement in Pant, the rejection fails to set forth necessary information as to the basis for the adverse action. That is, the rejection fails to state why one skilled in the art would ignore this evidence in Pant (that Pant’s “required structure” is in the platen and for fluid pressure supply, and not any other means of applying pressure). Therefore, the Final Office Action fails to comply with 37 CFR 1.104 (a) (2), which provides that:

“The reasons for any adverse action...will be stated in an Office Action and such information will be given as may be useful in aiding the applicant, ..., to judge the propriety of continuing the prosecution.” (bold added)

Applicants respectfully request that the rejection in the Final Office Action be supplemented to provide the following if it exists, and if same does not exist, to provide an acknowledgement that it does not exist:

1. evidence as to why it is proper to not view Pant as a whole as part of the obviousness determination, and thus why it is proper to ignore this col. 5, lines 25-28 evidence in Pant; and
2. evidence necessary to clearly indicate why one skilled in the art would ignore this (col. 5, lines 25-28) evidence in Pant that Pant’s “required structure” is for fluid pressure supply from the platen to the polishing belt, and not any other means of applying pressure.

The Evidence: As To Doran:

The Final Office Action fails to include a response to Applicants’ assertion that the Section 103 standard is properly reviewed with respect to Doran “as a whole”.

Applicants previously correctly asserted that the Doran reference should be viewed as a whole. Instead, the Final Office Action continued to improperly focus narrowly on Doran. In detail, after an Action page 2, Paragraph 2 general review of Doran (one sentence), at Action

page 4, Paragraph 5, the rejection limited the purpose for which Doran was cited. It is respectfully submitted that this limitation is an improper attempt to narrow the manner in which Doran is reviewed under the Section 103 standard. In detail, the rejection states that:

1. “Doran is relied upon to teach....”;
2. “Doran is merely relied upon to teach...”;
3. “Doran isn’t used to teach applying force to the back side of the wafer...”; and
4. [Doran is used] “..., but to teach that using piezoelectric elements to “apply force” is well-known”..

In other words, the rejection in effect states that one should ignore the direct teaching of Doran, which is to apply force to the backside of the wafer and not to the backside of a polishing belt. Further, the rejection in effect states that one should ignore the direct teaching of Doran, which is to use such force on the backside of the wafer to change the shape of the wafer, and not to change the shape of the polishing belt, to achieve polishing uniformity (see col. 3, lines 54-57). Finally, the rejection in effect states that one should ignore the direct teaching of Doran in which Doran teaches the use of a customary “primary” platen 210 (col. 3, lines 20-44), and to ignore that Doran does not teach use of a platen with a piezoelectric element.

In failing to discuss these direct teachings of Doran, the rejection fails to set forth necessary information as to the basis for the adverse action. The evidence includes Doran’s direct teaching of the use of a customary “primary” platen (col. 3, lines 20-44), and evidence that the piezoelectric elements are used not in the customary “primary” platen, but only in the wafer carrier (col. 2, lines 63 onto col. 3). For example, the rejection fails to state (1) why one skilled in the art would ignore this evidence in Doran in which the piezoelectric elements were not used by Doran in the platen, and (2) why, if increased polishing uniformity is supposed to result from use of the piezoelectric elements in the wafer carrier, does Doran not also use the piezoelectric elements in the platen.

It is respectfully submitted that the Final Office Action fails to comply with 37 CFR 1.104 (a) (2) because the statements in the rejection do not provide the reasons for this adverse action, and in detail do not include such information as may be useful in aiding Applicants to judge the propriety of continuing the prosecution.

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Applicants respectfully request that the rejection in the Final Office Action be supplemented to provide the following if it exists, and if same does not exist, to provide an acknowledgement that it does not exist:

1. evidence as to why it is proper, in this case and contrary to the weight of numerous cases of the CAFC, to not view Doran **as a whole** as part of the obviousness determination, and thus why it is proper in this case to ignore this evidence in Doran as to how the piezoelectric elements are really used for wafer shaping and not for polishing belt control; and
2. evidence that clearly indicates why one skilled in the art would ignore this evidence in Doran that Doran's piezoelectric element structure has a specific disclosed function that relates solely to the shape of the wafer.

The Evidence: As To Both Pant and Doran:

The Final Office Action Fails to Identify Facts To Support The Reasoning Related To More Accurate Control of Pressure Distribution By Use Of Doran In Lieu Of Pant

It is respectfully submitted that there is a further basis by which the evidence set forth in the Final Office Action is insufficient. The Examiner made clear on page 2, last sentence, of the Final Office Action that the rejection is also based on the following reasoning:

Reasoning: Substitution of

“...the pressure control means of Pant with piezoelectric elements, as taught by Doran, **in order to more accurately control pressure distribution.**” (bold added for emphasis)

Under this reasoning, one of ordinary skill would substitute the functional structure of the one reference (Pant) for the functional structure of the other reference (Doran) “in order to” obtain more accurate control pressure distribution.

It is respectfully submitted that there is no evidence that any such substitution would result in the asserted “more accurate control [of] pressure distribution”.

Initially, paragraph 2, Final Action page 2, does not identify any evidence as to why the Doran mechanism at the wafer carrier would result in “more accurate control [of] pressure distribution” when applied indirectly to the wafer from the platen through the polishing belt as in Pant. The reference there to:

“Doran teaches polishing...which can be controlled...in response to conditions...”

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is a statement only as to Doran, and does not identify any evidence of deficiencies of Pant which would be overcome by Doran so that Doran would have “more accurate control [of] pressure distribution” than Pant.

Further, this part of the rejection fails to note the direct teaching of Pant at col. 6, lines 32+. This evidence in Pant is that with the Pant system:

“...when non-uniform polishing rate of the wafer surface occurs due to the nature of the ... belt, variations....and/or from any other cause, **adjustment of the fluid pressure at appropriate locations will compensate to increase or decrease pad-wafer contact at these points, resulting in a more uniform polishing rate.** (bold added for emphasis)

This exemplary passage of Pant was not acknowledged in the Final Office Action, and was not compared to Doran in making the assertion that the Doran-for-Pant substitution would result in the asserted “**more accurate control [of] pressure distribution**”. Thus, what is clear is that this combination rejection of the Final Office Action is not based on evidence of record, and ignores existing evidence in the primary reference to Pant that shows that Pant teaches how to obtain “a more uniform polishing rate” (Pant, col. 6, line37).

It is respectfully submitted that the Final Office Action fails to comply with 37 CFR 1.104 (a) (2), which (as noted above) requires that in an Office Action such “information will be given as may be useful in aiding the applicant, ..., to judge the propriety of continuing the prosecution.”

Applicants respectfully request that the rejection in the Final Office Action be supplemented to provide the following if it exists, and if same does not exist, to provide an acknowledgement that it does not exist:

1. evidence in support of the assertion in the rejection that Doran would have “more accurate control [of] pressure distribution” than Pant,
2. evidence identifying deficiencies of Pant which would be overcome by Doran so that Doran would have “more accurate control [of] pressure distribution” than Pant, and
3. evidence indicating why the direct teaching of Pant at col. 6, lines 32+ would be properly viewed by one skilled in the art as teaching less accurate (less uniform) polishing rate than Doran.

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The Reasoning for the Combination Is Improper

It is respectfully submitted that the reasoning for the combination is improper. On page 4 the rejection in the Final Office Action stated that the rejection was based on the following reasoning:

Reasoning: If there is evidence that two references to be combined are “functionally equivalent”,

“...one of ordinary skill would be motivated to use a functional equivalent”.

Under this reasoning, one of ordinary skill would substitute the functional structure of the one reference for the functional structure of the other reference.

In support of the premise that the reasoning for the combination is improper, reference is made to Winner International Royalty Corp. v. Wang, 53 USPQ 2d 1580 (Fed. Cir., 2000). This case relates directly to the “combinability” of the prior art (53 USPQ 2d, at page 1586). In particular, the issue was the presence or absence of sufficient proof of a motivation to combine. This case relates to an improvement to the famous automobile anti-theft device known as “The Club”, which was shown in the prior art Johnson patent. The improvement in question was described in the ‘047 patent at issue, which used a ratcheting mechanism in an automobile anti-theft device, rather than the dead-bolt lock of Johnson. A reference (Moore) was cited to be combined with Johnson and two other references. Moore disclosed a ratcheting mechanism in an auto-anti-theft unit. The Court noted that:

“While Johnson’s dead-bolt system is more secure, it is not as convenient as the ratcheting mechanism claimed in the ‘047 patent because a key is required to lock the Johnson device in place while the ‘047 patent discloses a device that locks itself without a key.”

It was clear from the discussion by the Federal Circuit that both references (Johnson and Moore), and the ‘047 patent in suit, were for devices for locking automobile steering wheels. The facts of the case indicate that Johnson and Moore each disclosed functionally equivalent mechanisms, in that both showed locks that locked the automobile steering wheels from rotation (see 53 USPQ 2d, at page 1583). The Federal Circuit noted that the district court found, as one basis for a lack of motivation to combine, that there was no apparent disadvantage to Johnson’s dead-bolt mechanism, and the Federal Circuit affirmed on this basis, holding the district court’s finding of

lack of motivation to combine as being proper. In discussion of the motivation issue, the Federal Circuit stated that:

“First, although there was conflicting evidence before the district court on whether one would see the trade-off between using a dead-bolt and using a ratcheting mechanism and conclude that the more secure dead-bolt should be replaced with the more convenient ratcheting mechanism, the district court **did not clearly err** in finding that one of ordinary skill in the art would not have reasonably elected trading the benefit of security for that of convenience. Trade-offs often concern what is feasible, not what is, on balance, desirable. Motivation to combine requires...” (bold added)

what is desirable.

It is respectfully submitted that the teaching of the Winner case is as follows:

When faced with a situation in which two references need to be combined to teach the claimed invention, and when those two references teach functional equivalents (e.g., both were devices for locking automobile steering wheels), it is **correct to not use the functional equivalents** as a basis on which to show motivation to combine those two references.

Moreover, Winner stands for the reasonableness of the district court finding that:

“...there was no motivation to combine Johnson with the ratcheting mechanism of Moore because there was **no apparent disadvantage** to the dead-bolt mechanism of Johnson, and therefore the motivation to combine would not stem from the “nature of the problem” facing one of ordinary skill in the art, because no “problem” was perceived.”

In the present situation, the reasoning of the rejection did not assert any disadvantage with the platen air pressure mechanism of Pant in the Pant-disclosed platen arrangement. To the contrary, the evidence is that rather than teaching any disadvantage, when the references are properly viewed as a whole (as previously and above advanced, e.g.), (1) Pant not only does not describe any disadvantage with the Pant platen air pressure mechanism, but also states the above-quoted col. 5, lines 25-28, that

“it is the presence of the fluid dispensing channels 32 and their ...openings 31 **which are the required structures for the practice of the present invention.**” (bold added for emphasis);

and (2) Doran does not describe any disadvantage of a platen air pressure mechanism that supports a polishing belt.

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In view of the Winner case, it is respectfully submitted that it can be fairly said here, based on the lack of critical evidence in the Final Office Action and on these remarks, that there is no proper evidence by which one skilled in the art would be motivated to combine Pant with the piezoelectric elements of the secondary reference to Doran. There is no apparent (factual) evidence of a disadvantage of the Pant air pressure channels and openings in the platen acting on the polishing belt mechanism of Pant. Therefore, here (as in Winner) the motivation to combine would not stem from the "nature of the problem" facing one of ordinary skill in the art, because no "problem" is perceived. With no problem perceived with the Pant platen air pressure mechanism, Winner teaches that the here-asserted **functional equivalent** nature of the secondary reference (Doran) would **not be a sufficient basis** on which to conclude that one skilled in the art would be motivated to eliminate the platen air pressure mechanism of Pant in favor of use on the platen of the wafer carrier piezoelectric elements of Doran.

Therefore, the Final Office Action fails to comply with 37 CFR 1.104 (a) (2), which as noted above requires that not only will the reasons for any adverse action be stated in an Office Action, but also such information as may be useful in aiding the Applicants to judge the propriety of continuing the prosecution.

Applicants respectfully request that the rejection in the Final Office Action be supplemented to provide the following if it exists, and if same does not exist, to provide an acknowledgement that it does not exist:

1. evidence as to why it is proper in a 35 USC 103 analysis to combine Doran with Pant based on functional equivalent structures; and
2. evidence as to how Doran and Pant, taken together, and **when viewed as a whole**, in fact teach functionally equivalent structure.

In review, in the event that the evidence requested is not forthcoming, it would appear that there is not sufficient basis for the various rejections. In that event, since the asserted combination of Pant and Doran is essential to the rejection of every claim, allowance of all



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pending claims would be proper, and is requested.

Respectfully submitted,
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